Exhibit 1

November 12, 2013

James P. Mandey, Ph.Da. O.A.A.

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Expert Opinion in Stephen McCollum et al v. Brad Livingston
Susi Vassallo, M.D.

My name is Susi Vassallo, M.D. I am a physician licensed to practice Medicine in Texas and New York State. I am Board Certified in Emergency Medicine and Medical Toxicology. I am an expert on thermoregulation and the consequences of extreme heat on people. My curriculum vitae, fee schedule, and list of testimony for the previous four years are attached. I have been retained by Edwards Law and the Texas Civil Rights Project to review the records in the case of Stephen McCollum et al. v. Brad Livingston Civil Action No. 312-CV-020307.

Documents Reviewed

TDCJ Hutchins State Jail Dorm Roster 7/21/2011

TDCJ Hutchins State jail Offender Statement from C7 2011

TDCJ Hutchins State Jail rap sheet

TDCJ Hutchins State jail photo and ID roster

TDCJ extreme heat precautions operational procedures Hutchins unit April 15, 2012

Office of the Medical Examiner Autopsy Report 7/29/2011

Temperature Logs from Hutchins summer 2011

Heat Grievances

Medical records Mr. McCollum of TDCJ

Medical Records of UTMB Managed Care Jan 12, 2004

Parkland Hospital Intensive Care medical records

Office of the Inspector General Report

Defendants' supplemental responses

UTMB drug formulary

Texas Deaths in Prison records of 2011, including Emergency Action Center reports and Office of the Inspector General investigations performed after men died of hyperthermia

Site Visit to Hutchins Jail

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City of Hutchins Ambulance Record Incident 11-573 on 7-22-2011

Billing Records of Hutchins EMS transport in incident 11-573

McLennan County Jail Records

Heat warning documents posted at Hutchins Unit

McLennan County Sheriff's Office Health Services Division Medical Records

Report of Prof. James Balsamo

Depositions of Ananda Babbili, Robert Eason, Jeff Pringle, Richard Clark, Karen Tate,

Sandrea Sanders, Owen Murray, and Glenda Adams

Depositions of Stephanie Kingery, Stephen McCollum, and Sandra McCollum

McCollum's Medication Administration Record

Temperature extremes in the TDJC workplace policy

Medical record review

Mr. McCollum was a 58-year-old male with a medical history of hypertension, diabetes, major depressive disorder, arthritis, and back injury. As early as December 4, 2003 he was noted to have hypertension with a blood pressure of 184/88. On July 15, 2011, upon his transfer from McLennan County Jail to the Hutchins Unit, Mr. McCollum was noted on the Texas Uniform Health Status Update to have a history of hypertension. No blood pressure or other vital signs are recorded; the spaces are left blank. There is no evidence that a physical exam, except for weight and height, was performed. Mr. McCollum did, however, report a personal history of diabetes to a nurse performing an initial triage. Mr. McCollum's weight was 330 lbs. and his height 5 feet 10 inches. He was morbidly obese. On that date the record reflects that Physician Assistant Babbill gave a verbal order to stop clonidine and to start Mr. McCollum on the diuretic hydrochlorothiazide 25 mg every day.

Blood and urine tests were obtained from Mr. McCollum on July 20, 2011 at 8:42 am. The lab received the specimens on July 20th at 23:40pm and reported the results on July 21 at 8:43am approximately 20 hours before the collapse of Mr. McCollum. The test results were notable for a blood glucose elevation of 130 and an elevated hemoglobin A1C at 6.2, which is concerning with his reported history of diabetes. The serum white blood cell count was elevated at 13.1. His urine was concentrated and cloudy and showed signs of infection including more than 30 white blood cells, hyaline casts, trace ketones, and a specific gravity of 1.028. The serum electrolytes were abnormal including a sodium equal to 133, the chloride of 91. The BUN was 31 and the creatinine was 1.67. The carbon dioxide was 18 and the anion gap was elevated at 24. These blood and urine results are consistent with and indicate that Mr. McCollum was suffering from dehydration and infection.

Other prisoners noted in their statements that Mr. McCollum was not eating or drinking in the time prior to his collapse in heatstroke.

Human bodies dissipate heat by vasodilation and evaporative cooling through sweating. High relative humidity limits evaporation, and limits heat loss. The body temperature begins to rise, increasing the risk of heat-related illnesses.

It is well known that certain medical conditions, including hypertension, diabetes, and obesity, along with other factors like age, increase the body's intolerance to heat.

Temperatures in the C-7 dorm at the Hutchins Unit

Mr. McCollum was housed in the C-7 dorm. Random samplings of temperatures reflected a 2 to 3 degree difference between the inside and outside temperature in the dorm. (TDCJ Risk Management department inter-office communication date July 13,2011). On July 13 at 2pm the temperature inside C7 was 101°F. The outside

temperature was 104° F with 48% humidity and the heat index is 123° F outside. On July 22 at 7:45 am a few hours after Mr. McCollum's transport to Parkland, the temperature was 86° F degrees inside of C-7. The temperature outside was 84° F with 68% humidity. According to Mr. James Balsamo's report and the records available to me, the indoor heat index was over 100 every day Mr. McCollum was housed at the Hutchins Unit, and at times the heat index indoors likely exceeded 120. Additionally, TDCJ records indicate heat index levels in excess of 135 on multiple occasions in the days before Mr. McCollum died.

Visit to Hutchins Unit Jail September 23, 2013

I was accompanied by Warden Jeff Pringle, Mr. Jay Eason, Deputy Director of Texas Department of Criminal Justice, and other corrections officers and staff, State of Texas Assistant Attorneys General Mr. Matt Greer and Mr. Jonathan Stone and attorney Mr. Scott Medlock and Mr. Jeff Edwards.

C-7 Unit Bunk 46 is one of the upper bunks in a dormitory style setting designed to house 58 men. Because it is the top bunk, Mr. McCollum, a large obese man lying in the bunk, would have been visible from the officers' station. In addition Mr. McCollum's bunk was then and is now under observation by video camera connected to a video monitor in the Officers Station. Warden Pringle confirmed that corrections officers making rounds enter the housing area and are not separated from inmates by bars or other barriers once inside. Officers walk in direct proximity to inmates and may speak to, touch, shake or otherwise rouse the inmates. Given this physical access and proximity, the unresponsiveness of an inmate can be ascertained and further assessed. Other inmates noted that Mr. McCollum did not leave his bunk to eat and was not able to show his identification card to the correction officer on rounds, necessitating another inmate do this for him. These methods of observation of Mr. McCollum presented critical opportunities to intervene and prevent his death by heatstroke. Mr. McCollum was not normally responsive or active due to life -threatening illness. Again the opportunities to prevent death were several fold; by observation by video of Mr.

McCollum's lack of engagement in the activities of daily living, such as eating and interacting, and by direct contact with corrections officers. Mr. McCollum was unresponsive to an identification security check. Other inmates were in proximity and had noted Mr. McCollum had not left his bed and seemed ill.

When I was at the prison, I observed several signs titled "Recognition of Heat Illness" a document regarding the risk of heat illness. These were posted in areas where correction officers had access; these areas included the property and intake areas outside of the holding cells. Because the signs were posted outside of the prisoner holding area a prisoner would not be able to stand and read the sign. Perhaps the signs were placed there as part of the effort to educate corrections officers to the dangers of heat illness at the Hutchins Unit. (Of course, from visiting the prison on this date I could not tell if these signs were posted when Mr. McCollum was in the prison or not.)

I also observed one ten-gallon jug in the C-7 dorm for water in the summer.

According to testimony I reviewed, the jugs were supposed to be refilled three times per day during the summer.

Many parts of the prison that we visited were air conditioned – like the administrative building, the infirmary, and the intake building.

Even though we visited the prison in early fall, it was noticeably warm inside the dormitory where Mr. McCollum was housed. It would be dangerously hot for anyone, especially for someone with Mr. McCollum's conditions, in July. It was obvious that the building was not air conditioned, and that the temperatures could not be mechanically raised or lowered, according to the American Correctional Association standards.

I observed the parts of the prison where prisoners are brought into the prison system, and processed into the prison.

Opinions

Mr. McCollum died of heatstroke because of his medical conditions and the extreme temperatures in which he was incarcerated and because officers ignored his life-threatening heat stroke, and delayed life-saving treatment or transport to a hospital for more than an hour. His death was entirely preventable. The inhumane temperatures in the cell led directly to his death by heatstroke.

- 1. Heat stroke is a true medical emergency. When a patient begins to suffer a heat stroke, they must immediately receive medical treatment or they are put at increased risk of death or serious injury. Survival is possible if cooling measures are rapidly instituted. It is well known that heat stroke can cause death and each of the Defendants and TDCJ and UTMB training materials acknowledged heat stroke is a medical emergency. Death is a potential consequence of heat stroke identified in TDCJ and UTMB's training materials.
- Mr. McCollum was at markedly increased risk of heat stroke under the conditions at the Hutchins Unit due to his medical conditions. These medical conditions put Mr. McCollom at increased risk of heatstroke and death.
- 3. Diuretics such as the hydrochlorothiazide prescribed for Mr. McCollom also increased his risk of heat stroke. Diuretics remove water from the body to decrease blood pressure. Diuretics impair the ability of the heart to increase cardiac output due to dehydration. Diuretics increase a patient's risk of heatstroke by causing dehydration and impairing cooling. Dehydration substantially increases a patient's risk of heat stroke.
- 4. Diabetes would also put Mr. McCollum at increased risk of heat stroke. Diabetes is a chronic disease caused by an insulin imbalance. It is a medical condition that impairs the ability of the cardiovascular system to cool the body. Among other effects, diabetes impairs the body's ability to cool by limiting cardiac output, vasodilation and sweating. These functions are critical to help cool the body during periods of heat. It is my opinion that,

- more likely than not, Mr. McCollum was diabetic based on his reported personal medical history, morbid obesity and lab results
- 5. Mr. McCollum was morbidly obese. His body mass index was greater than 40. His obesity likely limited his ability to walk, stand, and breathe, and certainly prevented him from climbing up and down from the top bunk when he was ill. People who are morbidly obese are more likely to suffer from cardiac diseases, diabetes, and heatstroke.
- 6. Mr. McCollum was at increased risk of heat stroke due to his age, hypertension, diabetes, obesity, and general physical condition. These observations are consistent with TDCJ and UTMB policies that identify medical conditions predisposing patients to heat stroke.
- 7. In the hours prior to his discovery in extremis, Mr. McCollum was unable to move or respond to corrections officers. Because of this, for example, Mr. McCollum's bunkmate presented Mr. McCollum's identification to officers checking on prisoners. The fact that corrections officers did not further assess Mr. McCollum until he was reported to be having "seizures" contributed to the delay in his care and to his death from heatstroke.
- 8. Cooling measures should have been immediately begun upon the discovery of Mr. McCollom unconscious and suffering seizures in his bunk. These measures should have included taking him to an air conditioned part of the prison such as the infirmary, wetting down his body, blowing fans onto his wet body and clothes and or packing his body with ice. This delay in cooling was a proximate cause of Mr. McCollum's death.
- 9. Mr. McCollum was discovered having seizures at 2:10am. The ambulance record shows the ambulance was not dispatched until 3:05 am, 55 minutes after the discovery of Mr. McCollum suffering convulsions, hot to the touch, and non-responsive. The ambulance personal reported the initial patient contact at 3:23 am. This delay in activating EMS contributed to Mr. McCollom's death from heatstroke. To a reasonable degree of medical certainty, it is more likely than not that Mr. McCollum would have survived if he was provided prompt first aid (such as taking him to the air conditioned

- infirmary, packing his body with ice, or wetting down his body and blowing fans on his wet body), or if he was provided with immediate care from a medical professional.
- 9. When a patient is non-responsive and convulsing, he requires immediate medical attention. Under no circumstances should treatment be delayed "until morning," as is described as the routine practice at the Hutchins Unit for prisoners suffering "seizures" at night. These symptoms are a medical emergency. Failure to immediately secure medical treatment for someone with these symptoms ignores an obvious, serious medical need, and is entirely unreasonable, and shows indifference to a serious medical need.
- 10. Failure to provide around-the-clock medical staff at a facility where people known to be vulnerable are housed in conditions known to be dangerous is extremely dangerous, and denies people access to potentially life-saving medical care.
- 11. The decision to house Mr. McCollum in the top bunk likely delayed his access to first aid and EMS. Because the officers could not lift Mr. McCollum off the bunk, they could not take him to an air-conditioned part of the prison while awaiting EMS. Likewise, when EMS arrived, transferring him from the bunk to the ambulance likely delayed necessary medical treatment. Finally, it would be more difficult for a person with obesity, like Mr. McCollum, to get up and down off the bunk to access water and showers, the measures available in the prison.
- 12. Mr. McCollum was at medically high risk for heat illness given his history of cardiovascular disease and obesity and the medications he was taking.
- 13. Mr. McCollum was sick for two days prior to his collapse. His laboratory values were abnormal and confirm the illness that surrounding prisoners described in their written descriptions. Yet he received no actual medical treatment or care. A review of his history, laboratory values and physical findings would have indicated he was at increased risk of heat stroke due to dehydration, underlying medial illness and infection.

- 14. Mr. McCollum did not receive a physical exam at any time during his incarceration at the Hutchins Unit. A physical exam would have likely identified his serious medical problems complicated by the extreme heat.
- 15. It is medically necessary to provide a person with Mr. McCollum's medical conditions, or someone prescribed his medications with his underlying conditions, access to air conditioning (or other cooling mechanisms, like misters) for at least part of the hottest days of the year to eliminate the risk of heat stroke. When temperatures exceed 100 degrees indoors, people with Mr. McCollum's medical conditions must receive some opportunity to cool off or they are put at grave risk of heat stroke. No competent medical provider could reasonably believe housing people with Mr. McCollum's medical conditions in apparent temperatures over 100 would not put patients at grave risk. Housing people with these medical conditions in these temperatures is extremely dangerous.
- 16. Several reasonable accommodations would have likely saved Mr. McCollum's life.
 - a. Housing Mr. McCollum in an air-conditioned portion of the prison, or assigning him to a prison that was air conditioned.
 - b. Allowing and instructing Mr. McCollum to spend a few hours per day in an air-conditioned portion of the prison.
 - c. Assigning Mr. McCollum to a bottom bunk.
 - d. Providing Mr. McCollum immediate medical attention when he began to suffer convulsions and became unresponsive, including taking him to an air-conditioned part of the prison, wetting down his body, and packing his body with ice.

These measures are all reasonable and medically necessary for someone with Mr. McCollum' disabilities.

17. The measures TDCJ and UTMB take to protect prisoners from heat stroke are obviously medically inadequate, do nothing to bring down the temperature, are inhumane for all prisoners and officers working in these conditions, and endanger the lives of people like Mr. McCollum.

- a. Cold water cold water is necessary to help cool the body during periods of extreme temperature. The signs posted in the prison suggest drinking 2 gallons of water a day on the hottest days. Drinking that much water would have been very difficult for Mr. McCollum because it would require him to constantly get up and down off his top bunk, and he had no cup to hold even the tap water from the sink.
- b. Fans fans merely recirculate hot air. This has little to no medical benefit for people exposed to extremely high temperatures.
- c. Limiting convict labor Mr. McCollum was not medically approved to work, and did not benefit from the policies limiting convict labor during extreme temperatures. Similar limits on housing vulnerable prisoners during periods of extreme temperatures are necessary to prevent deaths from heat stroke.
- 18. The conditions at the Hutchins Unit created a very high risk of heat stroke, especially for patients with Mr. McCollum's medical conditions.
- 19. I concur with the findings of the autopsy Mr. McCollum more likely than not died due to heat stroke due to lack of air conditioning.
- 20. The increased risk of heat stroke for patients with Mr. McCollum's medical conditions is basic medical knowledge, that any accredited doctor, physician's assistant, or nurse would know.
- 21. Before Mr. McCollum's death, he was likely in pain and suffering intensely from the extreme temperatures.

Summary

Mr. McCollum's death is a direct result of the extreme temperatures in his cell, inadequate monitoring of an inmate at risk for heatstroke, poor preparation of the Hutchins facility for heatstroke emergencies, delay in cooling and delay until transport by ambulance to Parkland Emergency Department. Mr. McCollum's death was preventable.

Susi Vassallo, M.D., FACEP, FACMT

SUSI U. VASSALLO, M.D.

Curriculum Vitae

PERSONAL DATA

Born: Austin, Texas, January 27, 1959

Citizenship: USA

Address: 6018 Mount Bonnell Cove, Austin Texas 78731

Address: 545 First Avenue, Apt 10-C, New York, New York 10016

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Susi.vassallo@nyumc.org susivassallo@gmail.com

EDUCATION

1977 High School Diploma - McCallum High School Austin, TX

1980 Bachelor of Science Biology, Honors - University of Texas, Austin, Texas

1984 Doctor of Medicine - University of Texas, Houston, Texas

POST DOCTORAL TRAINING

Residency

1984-1987 - Emergency Medicine, Wayne State University, Detroit Receiving Hospital, Detroit Michigan

Fellowship

1987- 1989 – Medical Toxicology, New York University School of Medicine / Bellevue Hospital Center, New York City Regional Poison Control Center, 455 First Ave., New York New York

LICENSURES AND CERTIFICATION

Licensure

1984 Texas State Medical License, #G9001

1987 New York State Medical License, #170778

2001 California State Medical License, #C50674

Board Certifications

1984 Federal Licensure Examination

1988 Diplomate, American Board of Emergency Medicine

1989 Diplomate, American Board of Medicine Toxicology

1995 Diplomate, American Board of Emergency Medicine With Subspecialty Certification in Medical Toxicology

2004 Medical Toxicology Subspecialty Recertification

2008 Diplomate Recertification, American Board of Emergency Medicine

Other Certifications

Basic Life Support

Advanced Cardiac Life Support

Pediatric Advanced Life Support

Susi U. Vassallo, M.D.

Page 2

American Heart Association Instructor

ACADEMIC APPOINTMENTS

September 2012 Clinical Associate Professor UT Southwestern Medical School Dallas, Texas

September 2009 Clinical Associate Professor of Emergency Medicine, NYU School of Medicine / Bellevue Hospital Center, New York, New York

1994 to August 2009 - Clinical Assistant Professor of Emergency Medicine, NYU School of Medicine / Bellevue Hospital Center, New York, New York

1993 – Instructor in Clinical Medicine (Emergency Medicine), NYU School of Medicine / Bellevue Hospital Center, New York. New York

HOSPITAL APPOINTMENTS

Present: Emergency Service Partners / University Medical Center Brackenridge - Seton and Dell Children's Hospital Attending Physician

1989 to Present – Attending Physician Emergency Medicine Bellevue Hospital Center and Tisch Hospital, NYU School of Medicine, NY, NY

2003 to Present - Attending Physician Emergency Medicine Veterans Administration Hospital, NY, NY

AWARDS AND HONORS

- 1991 Fellow, American College of Emergency Physicians
- 1997 Fellow, American College of Medical Toxicology
- 2003 Fellow, New York Academy of Medicine

MEMBERSHIPS, OFFICES, AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES

Memberships

- 1989 American Academy of Clinical Toxicology
- 1989 American College of Medical Toxicology
- 1991 American College of Emergency Medicine
- 2003 Society for Academic Emergency Medicine
- 2007 American Correctional Association
- 2012- Association of Clinical Documentation Improvement Specialists
- 2013- American Case Management Association

Offices

1999 - 2002 - Women's Sports Foundation Advisory Board and Research Council

2000 - New York State Office of Professional Medical Conduct Consultant

Committee Assignment

2007 - 2011 American Board of Emergency Medicine, Oral Board Examiner

EDITORIAL POSITION: REVIEWER

1987 - 1989, American Academy of Clinical Toxicology Updates

SUSI U. VASSALLO, M.D. Page 3

1994 - Annals of Emergency Medicine

1995 - Journal of Toxicology / Clinical Toxicology

1999 - Intensive Care Medicine

2011 - American Journal of Public Health

PRINCIPAL CLINICAL AND HOSPITAL SERVICE RESPONSIBILITIES

Clinical

2012 to present Faculty UT Southwestern Emergency Medicine Residency at Austin, TX

1989 to present: Supervise patient care, provide administrative and clinical oversight in the Bellevue Emergency Department and teach medical students and residents from all specialties.

Hospital Service

1999 to present: Office of Public Affairs, Expert in Emergency Medicine, NYU School of Medicine

1989 to present: Office of Public Relations, Expert in Emergency Medicine, Bellevue Hospital Center

Major Administrative Responsibilities

1995 - 1996 - Director, Medical Toxicology Fellowship Program, NYU School of Medicine, NYC Regional Poison Control Center, NY, NY

2012- present; - Physician Advisor for Case Management Bellevue Hospital Emergency Services

TEACHING EXPERIENCE

Local

- March 1988 Bellevue Hospital and New York City Regional Poison Control Center Emergency Medicine Seminar: Non-Opioid Analgesics.
- April 1988 Bellevue Hospital and New York City Regional Poison Control Center Emergency Medicine Seminar, Lecture: "Mushrooms."
- May 1988 New York Hospital / Cornell School of Medicine Flight Team. Lecture: "Helicopter Transport of the Poisoned Patient."
- May 1988 Bellevue Hospital and New York City Regional Poison Control Center Emergency Medicine Seminar. Lecture: "Solvent Toxicity: Has My Patient Been Exposed?"
- June 1988 New York University Medical Center / Bellevue Hospital, Emergency Medicine Board Review Course. Lecture: "Recent Advances in Hypothermia Management."
- March 1988 to November 1988 New York University Medical Center / Bellevue Hospital Twenty-Two-Week Emergency Medicine Board Review Course. Lecture: "Environmental Emergencies."
- August 1988 New York University Medical Center, Department of Internal Medicine Conference Series. Lecture: "Hyperthermia."
- March 1990 New York City Regional Poison Control Center in conjunction with Bellevue Hospital Emergency Services and St. John's University School of Pharmacy. An Intensive Review in Clinical Toxicology. Lectures on: "Calcium Channel Antagonists," "B-blockers," and "Digoxin."
- October 1988 New York University Medical Center, Postgraduate Medical School, and Bellevue Hospital, Emergency Services, Fifth Annual Five Day Emergency Medicine Board Review Course. Lecture: "Environmental Emergencies."

SUSI U.VASSALLO, M.D. Page 4

- June 1990 New York University Medical Center, Postgraduate Medical School, 10th Annual Emergency Medicine Seminar. Lectures: "Evaluation of Penetrating Trauma," "Orthopedic Assessment and Casting." "Airway Management," and "Trauma Case Studies."
- March 1991 New York City Regional Poison Control Center in conjunction with Bellevue Hospital Emergency Services and St. John's University School of Pharmacy, An Intensive Review in Clinical Toxicology. Lectures on: "Chemical Toxins."
- March 1991 to November, 1991 New York University Medical Center / Bellevue Hospital Twenty-Two-Week Emergency Medicine Board Review Course. Lecture: "Environmental Emergencies."
- August 1991 Metropolitan Hospital / New York Medical College, Emergency Medicine, Grand Rounds. Lecture: "Hyperthermia."
- October 1991 New York University Medical Center, Postgraduate Medical School, and Bellevue Hospital, Emergency Services, Sixth Annual Five-Day Emergency Medicine Board Review Course. Lecture: "Environmental Emergencies."
- March 1992 New York City Regional Poison Control Center in conjunction with Bellevue Hospital Emergency Services and St. John's University School of Pharmacy. An Intensive Review in Clinical Toxicology, Lectures: "Biological Hazards" and "The Patient with an Arrhythmia."
- June 1992 New York University Medical Center, Postgraduate Medical School, 11th Annual Emergency Medicine Seminar. Lectures: "Resuscitation from Traumatic Arrest," "Heat-related Disorders," and "Orthopedic Assessment and Casting."
- March 1992 New York University Medical Center, Postgraduate Medical School. Course Director, One-day Seminar. Lecture: "Orthopedic Assessment for the Emergency Physician."
- March 1993 New York City Regional Poison Control Center in conjunction with Bellevue Hospital Emergency Services and St. John's University School of Pharmacy, an Intensive Review in Clinical Toxicology. Lectures: "Drugs of Abuse" and "Toxic Alcohols."
- 1992 to 1994 New York University Medical Center, Postgraduate Medical School Emergency Medicine Residency Program. Lecture Series: "Procedures in Emergency Medicine."
- March 1994 New York City Regional Poison Control Center in conjunction with Bellevue Hospital Emergency Services and St. John's University School of Pharmacy, an Intensive Review in Clinical Toxicology. Lecture: "Hydrofluoric Acid."
- June 1994 New York University Medical Center, Postgraduate Medical School, 14th Annual Emergency Medicine Seminar. Lecturers: "Chest Pain and the Deformed Steering Wheel," "Pediatric Trauma," and "Hand Evaluation: An Intensive Minimodule."
- June 1994 New York University Medical Center, Bellevue Hospital, Department of Pediatrics and Emergency Services. Pediatric Emergency Medicine Lecture: "Environmental Emergencies."
- September 28 / October 2, 1994 Essential Topics in Emergency Medicine, presented by ACEP, Washington, D.C. Lectures: "Management of the Overdosed Patient," "Street Drugs," "Analgesic Drug Toxicity," and "Envenomations."
- March 1995 New York City Regional Poison Control Center in conjunction with Bellevue Hospital Emergency Services and St. John's University School of Pharmacy, an Intensive Review in Clinical Toxicology. Lecture: "Special Concerns in Pediatrics."
- May 1995 New York University, Bellevue Hospital Center Department of Pediatrics. Pediatric Emergency Medicine Review. Lecture: "Summertime Environmental Dangers."
- 1995 New York University Medical Center Postgraduate Medical School. 15th Annual Emergency Medicine Seminar. Lectures: "Critical Decisions Regarding the Diagnosis and Management of Hypo- and Hyperthermia" and "Hand Evaluation."
- July 8, 1996 Grand Rounds: Brooklyn Hospital Center Internal Medicine and Emergency Medicine. "Heat Illness, Pathophysiology and Treatment."

Susi U. Vassallo, M.D.

Page 5

- March 12 to 13, 1998 New York Regional Poison Control Center, Bellevue Hospital Center. An Intensive Review in Clinical Toxicology. "Natural Toxins."
- June 2 to 4, 1999 NYU School of Medicine / Bellevue Hospital Department of Emergency Medicine. Contemporary Concepts in Clinical Emergency Medicine: A Literature-based Approach. How are Hypothermic Patients Best Rewarmed?
- March 9, 2000 Lutheran Medical Center Internal Medicine Grand Rounds, New York, NY. "Sports Toxicology."
- March 9, 2000 An Intensive Review Course in Clinical Toxicology, New York City Poison Control Center and Bellevue Hospital Center: "Sports Toxicology" and "Snakes and Spiders."
- April 13, 2000 Lutheran Medical Center Internal Medicine Grand Rounds, New York, NY. Lecture: "Snakes and Arthropods."
- June 2 to 4, 2000 NYU School of Medicine / Bellevue Hospital Department of Emergency Medicine. Contemporary Concepts in Clinical Emergency Medicine: A Literature-based Approach, Lecture: "Fomepizole: When should it be used?"
- June 7, 2001 -Bellevue Hospital Department of Emergency Medicine 21st Annual Emergency Medicine Seminar. Contemporary Concepts in Clinical Emergency Medicine: A Literature-based Approach. Lecture: "Medical Complications of Marathons."
- March 7 to 8, 2002 New York Poison Control Center and Bellevue Hospital Center: An Intensive Review Course in Clinical Toxicology. "Sports Toxicology."
- June 5, 2003 NYU Department of Emergency Medicine 23rd Annual Emergency Medicine Seminar.
 Contemporary Concepts in Clinical Emergency Medicine: A Literature-based Approach. "The Pain of Prisoners: Health Care Behind Bars."
- March 3, 2005 American College of Emergency Physicians and the Section on Emergency Medicine. New York Academy of Medicine. Lecture: "Life in Emergency Medicine."
- April 1, 2005 New York University School of Medicine. Orthopedic Injuries: Clinical Management and Controversies. "Pediatric Fracture Patterns in Child Abuse."
- March 9 to 10, 2006 New York City Poison Control Center and Bellevue Hospital Center. An Intensive Review Course in Clinical Toxicology. "Sports Toxicology Workshop."
- March 30, 2006 Office of the Chief Medical Examiner, New York City: "Trauma in the Living."
- April 7, 2006 NYU School of Medicine: The Orthopedic Manifestations of Child Abuse.
- August 3 to 7, 2006 NYU School of Medicine Emergency Medicine Review Course: "Environmental Emergencies."
- Advanced Science Seminar, NYU School of Medicine Medical Student Lecture Series August 2008: Sports Toxicology.
- March 8 to 9, 2007 Bellevue Hospital Center / NY Regional Poison Control Center: An Intensive Review Course in Clinical Toxicology. Lectures: "Hyperthermia Syndromes" and "Sports Toxicology Workshop."

National Lectures

- 1994 ACEP Scientific Assembly, Orlando, Florida. Lectures: "Antidepressant Overdose," "Case Studies in Medical Toxicology," and "Heat Stroke and Heat-related Disorders
- November 1988 Johns Hopkins Medical Institutes, Department of Emergency Medicine, Baltimore, Maryland.
 Written Boards in Emergency Medicine, A Comprehensive Review. Lecture: "Environmental Emergencies."
- September 1991 San Francisco General Hospital / UCSF / Division of Emergency Medicine, Grand Rounds.
 Lecture: "Penetrating Trauma."
- June 1993 University of Texas at Houston, Department of Emergency Medicine, Houston, Texas, Grand Rounds. Lecture: "Acute Salicylate Toxicity."

SUSI U. VASSALLO, M.D.

Page 6

- May 15 to 19 1994 Essential Topics in Emergency Medicine, Presented by ACEP, New Orleans, Louisiana.
 Lectures: "Management of the Overdosed Patient: The First Thirty Minutes," "Street Drugs," "Envenomations," and "Analgesic Drug Toxicity."
- March 20 to 24, 1995 Society for Academic Emergency Medicine, Annual Meeting, San Antonio, Texas. Case Presentation Competition Discussant, Northeast Region.
- September 1995 1995 ACEP Scientific Assembly, Washington, D.C. Lectures: "Difficult Issues in Pediatric Trauma: They're Not Just Little Adults," "Case Studies in Medical Toxicology," and "Snake and Arthropod Bites."
- April 1995 Brooke Army Medical Center Emergency Medicine Department, San Antonio, Texas. Grand Rounds. Lectures: "Iron Poisoning" and "Drugs of Abuse."
- April 15, 1997 University of Pennsylvania Medical Center Department of Emergency Medicine Grand Rounds: "Hypothermia."
- April 27 30, 1999 Women's Sports Foundation Annual Summit Meeting, Washington, D.C. "Sports Toxicology."
- April 3-5, 2000 American College of Emergency Physicians: Emergency Medicine Connection 2000, Marriott Marquis, NY, NY 1. Pure Poison 2000 2. Case Studies in Toxicology
- Jan 14, 2000 Uniformed Services Emergency Medicine Residency Program / Brooke Army Medical Center, Fort Sam Houston, Texas. Grand Rounds. Lecture: "Hypothermia," "Case Studies in Toxicology," and "New Drugs of Abuse."
- September 17, 2000 North American Congress of Clinical Toxicology 2000, American Academy of Clinical Toxicology. "Metformin."
- December 6th, 2000 Southwestern Medical School Department of Emergency Medicine, Dallas, TX. Grand Rounds. Lecture: "Hypothermia."
- February 7 to 11, 2004 Rocky Mountain Winter Conference on Emergency Medicine. Grand Rounds. Lecture: Winners and Losers: The Toxicology of Performance Enhancement. Colorado Chapter, ACEP. Copper Mountain, Colorado.
- February 25, 2004 Southwestern Medical School Department of Emergency Medicine and Dallas Poison Control Center. Winners and Losers: The Toxicology of Performance Enhancement.
- July 8, 2004 Wayne State University School of Medicine / Department of Emergency Medicine Keynote Speaker, Detroit, Michigan. "Thermoregulatory Disorders in the Emergency Department."
- March 15-17, 2007 American College of Medical Toxicology 5th Annual Spring Course, Miami, FL. Lecture:
 "Out of Bounds: The Science and Toxicology of Testing Athletes."
- April 13-16, 2008 American College of Occupational and Environmental Medicine. American Occupational Health Conference, New York, NY. Invited Speaker: "The Toxicology of Testing in Sports."
- March 7 8th, 2008 Invited Panelist Fordham Law School, New York City. The Lethal Injection Debate: Law and Science. Physician Participation in Lethal Injection. Co-panelists: Gregory Curfman, M.D., Executive Editor, New England Journal of Medicine, Stephen Morrissey, PhD Managing Editor, New England Journal of Medicine and Jonathan Groner, M.D. Ohio State University. Lecture: "The Pharmacology of Lethal Injection."
- March 3, 2009 Fordham Law School Criminal Law Workshop, "Medical Care of Inmates," Invited scholar by Professor Deborah Denno and Arthur A. McGivney, Professor of Law.
- October 25th, 2011: Fordham Law School: Neuroscience and the Law. Ethanol Intoxication, Withdrawal and Tolerance and the Legal Limit
- November 1, 2011 American Public Health Association: Moderator: The FDA and Public Health: Improving Scientific Integrity, Safety, and Quality of Medical Products
- November 2-5, 2011 Children's Hospital of Philadelphia: Pediatric Emergency Medicine in Historic Philadelphia: Pediatric Toxicology

SUSI U. VASSALLO, M.D.

Page 7

- November 27, 2012 Fordham Law School: Law and Neuroscience Speakers Series 2012. "From the Bellevue Hospital Emergency Department; The Science of Intoxication, Tolerance and Withdrawal".
- National Association of Physician Advisors Physician Advisor Summit Dec. 2, 2013. "The New York City Emergency Department Care and Case Management Program"

International Lectures

- October 2-25 1997 14th Annual Scientific Conference, L'Association des Medecins d'Urgence du Quebec, Quebec City, Quebec. Lecturer. "Street Drug Intoxications," "Cocaine Toxicity," and "Clinical Cases in Toxicology."
- May 22 to 25, 2002 European Association of Poisons Centres and Clinical Toxicologists XXII International Congress, Lisbon, Portugal. "Toxicologic Effects on Thermoregulation."
- November 18 to 20, 2004 NYU Department of Emergency Medicine and the Department of Emergency Medicine, Tirgu Mures, Romania. Pediatric Emergency Medicine Course: "Pediatric Toxicology and Pediatric Thermoregulation."
- February 10 to 11, 2007 Rajavithi Hospital, Bangkok, Thailand. Advanced Training in Emergency Medicine.
 "The Management of Trauma."
- June 21, 2011: San Miguel de Allende, Mexico: The Symposium on Resusciation. Sociedad Mexicana de Medicine de Emergencia; / International Federation of Emergency Medicine: "Lipid Emulsion Infusion in Acute Overdose"

TEACHING AWARDS RECEIVED

2002-2003- Clinical Attending Physician of the Year, NYU - Bellevue Emergency Medicine Residency Program 2005-2006 - Clinician of the Year, NYU - Bellevue Emergency Medicine Residency Program

MAJOR RESEARCH INTERESTS

Thermoregulation: Hyperthermia and Hypothermia

Drugs and Effects on Temperature

Prisoner rights: Access to appropriate health care in prison

Conditions of confinement and temperature

Drug effects on temperature regulation in prisoners

Lethal Injection: Medical toxicology of the three drug protocol

Thiopental in lethal injection

Susi U. Vassallo, M.D.

Page 8

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Original Reports

- 1. Vassallo, SU and Delaney, KA: "Pharmacologic effects on thermoregulation: Mechanisms of drug-related heatstroke," *Clin Toxicol* 1989; 27; 4 199-224.
- 2. Delaney, KA, Howland, MA, Vassallo, SU and Goldfrank LR: "Assessment of acid-base disturbances in hypothermia and their physiologic consequences," *Ann Emerg Med* 1989;18;72-77.
- 3. Brown J, Hoffman RS, Aaron CK, Vassallo S: Theophylline toxicity. Ann Emerg Med 1989;18:425-426.
- 4. Vassallo, SU, Khan, A, Howland, MA: "Use of the Rumack-Matthew nomogram in cases of extended-release acetaminophen toxicity." *Ann Intern Med* 1996;125:940.
- 5. Vassallo S, Delaney K, Hoffman R, Slater W, Goldfrank L: "A prospective evaluation of the electrocardiographic manifestations of hypothermia." *Acad Emerg Med* 1999;6:1121-1126.
- 6. Vassallo, S, Hartstein, M, Howard, D and Stetz, J.: "Traumatic retrobulbar hemorrhage: emergency decompression by lateral canthotomy and cantholysis," *J Emerg Med* 2002;22: 251-256.
- 7. Delaney, KA, Vassallo, SU, Larkin, GL, Goldfrank, LR: "Rewarming rates in urban patients with hypothermia: prediction of underlying infection," *Acad Emerg Med* 2006;13:913-921.
- 8. Vassallo, SU: "Thiopental in lethal injection," Fordham Urban Law Journal, Vol. 35 p. 957-964, June 2008.
- 9. Chen BC, Vassallo SU, Nelson LS, Hoffman: Stress Cardiomyopathy induced by Acute Cocaine Toxicity Curr Clin Pharmacol 2012;6:1-11.

Reviews, Books, and Book Chapters

- 1. Delaney, KA, Vassallo SU, Goldfrank LR. "Hypothermia and Hyperthermia," In Goldfrank LR, Flomenbaum NE, Lewin NA, et. al. (eds.) Goldfrank's Toxicologic Emergencies, Fourth Edition, Appleton-Lange-Crofts, Norwalk, CT 1990.
- 2. Vassallo SU, "Cocaine" in Tintinalli, Krome and Ruiz, (eds.)" Emergency Medicine: A Comprehensive Study Guide, Third Edition, McGraw-Hill, 1992.
- 3. Delaney, KA, Vassallo, SU, Goldfrank LR, "Thermoregulatory Principles," In Goldfrank LR, Flomenbaum NE, Lewin NA, et. al. (eds.) Goldfrank's Toxicologic Emergencies, Fifth Edition, Appleton-Lange, Crofts, 1994.
- 4. Bruno, R and Vassallo, S., "Sedative Hypnotics," *Emergency Toxicology*, 2nd edition, Editor Vicellio, P. Lippincott-Raven, 1998.
- 5. Vassallo, S and Delaney, K, "Thermoregulatory Principles," In Goldfrank LR, Flomenbaum NE, Lewin NA, et. al. (eds.) Toxicologic Emergencies, 6th edition, Appleton-Lange, Crofts, 1998.
- 6. Vassallo, S., "Essential Oil Toxicity," Clinical Toxicology, Ford, M., Delaney KD, Ling LJ, Erikson, T.(eds.) Saunders, WB, 2001.
- 7. Vassallo, S: "Sports Toxicology" and "Thermoregulatory Principles,"," In Goldfrank LR, Flomenbaum NE, Lewin NA, et. al. (eds.) Goldfrank's Toxicologic Emergencies, 7th edition, Appleton-Lange, Crofts, 2002.
- 8. Vassallo, S and Delaney, KA, "Thermoregulatory Principles,"," In Goldfrank LR, Flomenbaum NE, Lewin NA, et. al. (eds.) Goldfrank's Toxicologic Emergencies, 8th Edition McGraw-Hill, 2006.

- 9. Vassallo, S, "Athletic Performance Enhancers,"," In Goldfrank LR, Flomenbaum NE, Lewin NA, et. al. (eds.) Goldfrank's Toxicologic Emergencies, 8th edition, LR, McGraw-Hill, 2006.
- 10. Vassallo, S: Chapter 7: Environmental Emergencies. In Naderi, S., Park R (eds.) Intensive Review for the Emergency Medicine Written Boards. McGraw-Hill, 2009

Educationally Relevant Publications

- 1. Vassallo, S., "Treatment of Methanol Intoxication." Hospital Pharmacy Hotline, Vol. 1 No 10, 1988.
- 2. Vassallo S., "Hypothermia," Audio Digest, Volume 7, Number 5, March 1, 1990.
- 3. Vassallo, S., "Clinical Challenges in Emergency Medicine: Nausea, Vomiting, Vertigo and Drug Overdose," Continuing Education Material Sponsored by Albert Einstein College of Medicine and Montefiore Medical Center. December 2001.

Abstracts

1988 AAPCC/AACT/ABMT/CAPCC Annual Meeting, Baltimore, Maryland.

Service dichromate poisoning: Survival after hemodialysis. Vassallo, SU and Howland, MA.

1998 American Association of Poison Control Centers Meeting.

Passion and Poison in the World's Great Opera. Platform presentation September 1998, Orlando FL.

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CIVIL RIGHTS

2010-2012 Department of Homeland Security – Nongovernmental Organization Medical Advisory Group: Policy and procedures development for the ICE Health Service Corps (IHSC) for delivery of health care to individuals in US Immigration and Customs Enforcement (ICE) or U.S. Customs and Borders Protection (CBP) custody.

Prisoner Rights and Health Care

Volunteer Medical Expert in the following Class Action Litigation Cases:

Russell et al vs. Mississippi Civil No. 1:02CV261 D D Feb 14, 2003 in the United States District Court for the Northern District of Mississippi, Eastern Division, in the case of the Death Row Class Action Lawsuit: Willie Russell, et al., v. Robert Johnson, et al, 1:02CV261-D-D.

• Expert in this case on behalf of the ACLU's Margaret Winter, Associate Director of the ACLU National Prison Project. Written declaration and testimony in Federal Court, Oxford Mississippi.

National Prison Project of the ACLU; Rendered an opinion for David Fathi, National Prison Project, concerning the risks of heat related illness for prisoners at the Wisconsin Secure Program Facility (WSPF) in Boscobel, Wisconsin. Jonmes'Elv. Berge, F.3d 2004 WL 1475494 (7th Cr., July 2, 2004).

• Expert in prison heat conditions on behalf of the plaintiffs. Written report.

National Prison Project Medical Expert with Associate Director Margaret Winter: continuing Monitoring of Consent Decree Mississippi State Penitentiary Parchman, MS, Unit 32 September 17, -18, 2008.

SUSI VASSALLO, M.D., FACEP, FACMT

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Medical Expert in evaluating prisoner health and medical care. Revisit to Parchman Fall 2008

Conditions of Confinement

Rikers Island Jails and Heat Conditions: Consultant's Report August 14, 2004: James Benjamin, et al. v. Martin F. Horn, et al. Case reference: 75 Civ. 3073 (HB). Curent and ongoing.

- Expert consultant by consent of both the defense NYC Department of Corrections and plaintiffs. Written report.
- 2004-Current: Heat Expert for Compliance with Heat Order

Clarence Leonard Hearns, Jr. v. Cal Terhune, et.al., Case NO. CV-99-01461-JM. Calipatria State Prison, State of California Exercise Yard conditions and Environmental Heat Risk expert on behalf of the plaintiff.

Expert in prison heat conditions on behalf of the plaintiffs. Written report. Deposition testimony

United States District Court for the District of Nevada: Riker et al v. Gibbons 3:08-CV-115-LRH-VPC Medical expert in prison heat conditions. For the Plaintiffs. Written Report.

Texas Civil Rights Project: Class Action Civil Suit Concerning Heat Conditions and Conditions of Confinement 2012-Current Written Report. Stephen McCollum et al v. Brad Livingston Civil Action NO. 312-CV-020307

Capitol Advocacy Project of Louisiana 2012-Current: Ball versus LeBlanc CV:No.13-368 Louisiana State Penitentiary at Angola, Prison Conditions Written Expert Report, Deposition testimony and Testimony in court August 2013.

Lethal Injection Litigation

Johnston vs. Crawford No. 4:04-CV-1075 CAS United States District Court Eastern District of Missouri Eastern Division

2005 Served as Medical expert consultant for the Plaintiff in litigation regarding the lethal injection protocol

Clemons v. Crawford No. 4-06-CV-00866 JCH United States District Court Eastern District of Missouri Eastern Division.

2006 Served as Medical expert consultant for the Plaintiff in litigation regarding the lethal injection protocol

Medical Expert

- Busch, et al. v. City of New York, et al., 00CV5211 (E.D.N.Y. 2003) Medical Toxicology expert on behalf of the defense. Testimony at trial.
- Bill R. Dinwiddie et al., v. St. Mary's Hospital of Blue Springs, Inc. et al. Case No.: 01CV222026
- Medical Toxicology expert on behalf of the plaintiff. Deposition testimony.
- Supreme Court of the State of New York, County of New York, 122405 / 2001 Trial Term Part 61, Judge Eileen Bransten: Gregory Raynor v. St. Vincent's Hospital and Medical Center, et al. March 5, 2007. Medical Toxicology expert on behalf of the defense. Testimony at trial.

SUSI VASSALLO, M.D.

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- Adam Ingles, Plaintiff, vs. Elmer Toro, et al, 01-CIV.8279 (DC) United States Southern District of NY. On behalf of the defense. Written report and deposition testimony.
- Flores v. NYC et al. 06 cv 3219(GBD) Emergency medicine expert for the defense. Written report.
- Deleon, Vincent v. Bo Robinson, et al., MID-L-6482-06. Emergency medicine and Medical Toxicology expert on behalf of the defense.
- United States District Court Eastern District of New York Harwinder Vilkhu, Plaintiff, vs The City of New York et al, 06Civ,2095. Emergency medicine expert on behalf of the defense.
- Cacic v. Incorporated Village of Lindenhurst, et al Supreme Court of the State of New York County of Suffolk;
 Index No. 4622/05 Toxicology expert for the defense.
- Van Orden v. McKasty No. 28490/05. Emergency Medicine and Medical Toxicology expert for the defense.
- Yanga J. Williams, et al. v. Taser International, Inc., et al: United States District Court, Northern District of Georgia, Civil Action file No. 1-06-CV-0051-RWS. Emergency Medicine Expert on behalf of the plaintiff. Deposition testimony. (current litigation)
- Sia Lo vs. Fairview Health Services, regents of the University of Minnesota and University of Minnesota Physicians. State of Minnesota Fourth Judicial District Ct file Number 27-CV-25134. Expert for the plaintiff.
- Harwinder Vilku v. City of New York, et al., CV-06-2095. Expert for the defense. September 2008
- Ingram vs. Rednour 10-cv-933-GPM-CJP. Deposition Testimony for the plaintiff (current litigation)

<u>Media</u>

NPR: January 24, 2013 Bellevue Hospital's Slow Comeback After Superstorm Sandy . www.wnyc.org/npr.../bellevue-hospitals-slow-comeback-after-superst.

WNYC News Monday May 9, 2011: Proposed ER at St. Vincent's Part of Larger Health Care Debate http://www.wnyc.org/articles/wnyc-news/2011/may/09/emergency-room-focal-point-larger-health-care-debate/

MSNBC September 22, 2011 Scores got sick, one died trying to kill bedbugs. Mike Stobbe

New York Times: 19 Have Died from Heat this Summer, City Says. Andy Newman September 1, 2011 Leonard Lopate Show: 93.9 FM, WNYC August 6, 2010. Please explain: Heat Stroke http://beta.wnyc.org/shows/lopate/2010/aug/06/please-explain-heat-stroke/ http://www.wnyc.org/people/susi-vassallo/

SUSI VASSALLO, M.D., FACEP, FACMT

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National Public Radio; Interview on the risks of hypothermia and the landing on the Hudson River by Captain Chesley Sullenberger. Jan 16, 2009

NY Daily News: Icy river next horror after US Airways Flight 1549 crash by Nancy Dillon. Jan. 16, 2009

Crain's Health Pulse: US Airways Jet Lands in Hudson River by Crainsnewyork.com January 15, 2009

Today Show: Toxicology consultant on the Heath Ledger's death due to drug toxicity

Sirius /XM Satellite Radio: Radio Doctor: Pediatric Emergencies / Pediatric Poisoning

New York Times: 8 Aboard Rescued in Another East River Chopper Crash. By Santora and Jess Wisloski. June 18, 2005

Trauma: Life and Death in the ER. Lifetime Television

MSNBC: September 13, 2001. Coverage of 9/11 from Ground Zero, NYC

New York 1 television interviews: Toxicology and Emergency Medicine

New York Times: Patients whose final wishes go unsaid put doctors in a bind. N.R. Kleinfield July 19, 2003

New York Times: Who's Got Job Stress? November 14, 1999

Books / Magazine Articles: Consultant / Contributor

Men's Health: How to get out of the Hospital Alive. by Ted Spiker.

AARP magazine: Emergency medicine. by Ted Spiker

The Doctors Book of Home Remedies for Women: Heat Exhaustion. By Prevention Magazine Editors

Ice: The nature, the history, and the uses of an astonishing substance. By Mariana Gosnell

Burned Alive: A Shocking True Story of Betrayal, Kidnapping and Murder by Kieran Crowley

Emergency! True Stories from the Nation's ERs